Ying Liu
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EDUCATION:

MS	Computer Science	University of SC.	5/1990	
Ph.D.	Physics	Carnegie-Mellon U	8/1988	GPA = 4.0
MS	Physics	Carnegie-Mellon U	5/1984	GPA = 4.0
BS	Physics	Lanzhou University	2/1982	

NOMINATION:

1. "ABM for Windows 95," 1996 ZD Shareware Awards, Best programming tools, PC Magazine.

MICROSOFT CERTIFICATION

- **MCP** (Microsoft Certified Professional), 2000.

- **MCSE** (Microsoft Certified System Engineer), 2000.

- **MCP + I** (Microsoft Certified Professional + Internet), 2000.

- **MCDBA** (Microsoft Certified Database Administrator), 2000.

PATENTS

Image Retrieval, 60?296,245, June 2001.

SOFTWARE COPYRIGHT

Designed and implemented the following software:

8. Attrasoft ChartFinder 4.7, (TX-5-260-884), March, 2001.
7. Attrasoft MidiFinder 4.3, (TX 5-183-269), December 1999.
6. Attrasoft PolyApplet 4.1, (TX 5-070-350), November 1999.
5. Attrasoft PolyNet for Windows 4.0, (TX 5-070-367), August 1999.
4. Attrasoft DecisionMaker for Windows, (TX 4-859-970), March 1999.
3. Attrasoft ImageFinder, (TX 4-716-570) April 1998.

2. Attrasoft Predictor for Windows, (TX 4-611-116), October 1997.
1. Attrasoft Boltzmann Machine for Windows, (TX 4-074-149, TX 4-073-151), November 1995.

TRADEMARK:

2. "ATTRASOFT", the United States of American, Reg. No. 2,280,997, 9/28/1999 – 9/28/2009.
1. "Attrasoft," Georgia, Registration NO. T15309, 12/1/1995 - 12/1/2005.

GRANT:

1. $45,700, Ying Liu and Kailash Chandra, "Equipment Needed for CSAB Accreditation of the Computer Science Technology Program," Equipment, Technology and Construction Trust Fund of Georgia, September 1994.

MICROSOFT OFFICIAL CURRICULUM

Course Taken	Description	
059	Internetworking with Microsoft® TCP/IP on Microsoft® Windows NT™ 4.0	5/2000
067	Implementing and Supporting NT™ Server 4.0	5/2000
073	Implementing and Supporting NT™ 4.0 Workstation	5/2000
068	Implementing and Supporting NT™ Server 4.0 in the Enterprise	5/2000
058	Networking Essentials	5/2000
087	Implementing and Supporting Microsoft® Internet Information Server 4.0	6/2000
	Implementing Microsoft Internet Explorer 4.0	6/2000
	Secure Web Access Using Microsoft Proxy Server 2.0	6/2000
029	System Administration for Microsoft SQL Server 7.0	7/2000

WEB SITE MANAGER

http://attrasoft.com

HONORS:

7. Marquis Who's Who in the World, 17th edition, 1999 - 2000.
6. Marquis Who's Who in Science and Engineering, 5th Edition, 1999 - 2000.
5. Marquis Who's Who in Science and Engineering, 4th Edition, 1998 - 1999.
4. International WHO'S WHO among Intellectuals, 1995, International Biographical Center, Cambridge, England.
3. WHO'S WHO WORLDWIDE, 1995 - 1996, Who's Who Worldwide Registry, Inc.
2. MOST ADMIRED MEN AND WOMEN OF THE YEAR, 1995, American Biographical Institute.
1. WHO'S WHO among Asian Americans, 1994 -1995, Gale Research Inc.

ORGANIZATIONS:

Member	Sigma-Xi Honor Society
Member	IEEE Computer Society
Member	IEEE Information Theory Society
Member	IEEE System, Man, and Cybernetic Society
Member	International Society for Optical Engineering (SPIE)
Member	International Society for Computing and Their Application (ISCA, formerly ISMM)

SKILLS:

Language	Java, C++, C, Visual Basic, OWL (Windows Programming), Pascal, FORTRAN, Lisp.
Internet	Java, HTML, cgi exe, cgi scripts.
OS	Windows, UNIX.
Database	SQL Server, Access, dBASE5, Informix.
Spreadsheet	Excel, Lotus123.
Database programming	Internet Database Connector (*.idc), DAO (Data Access Object), ADO (Active X data Object).
MCSE	Certified by Microsoft to manage corporate computer networks.
MCP+I	Certified by Microsoft to setup and manage web sites.

BUSINESS EXPERIENCES:

- Software Producer:
  7. Attrasoft MidiFinder4.3, December 1999.
  6. Attrasoft PolyApplet 4.1, (TX 5-070-350), November 1999.
  5. Attrasoft PolyNet for Windows 4.0, (TX 5-070-367), August. 1999.
  4. Attrasoft DecisionMaker for Windows, (TX 4-859-970), March 1999.
  3. Attrasoft ImageFinder, (TX 4-716-570) April 1998.

2. Attrasoft Predictor for Windows, (TX 4-611-116), October 1997.
1. Attrasoft Boltzmann Machine for Windows, (TX 4-074-149, TX 4-073-151), November 1995.
- Implement Database Applications for Small Business.
- Attrasoft, Founder, September 1995.

ACADEMIC EXPERIENCES:

Tenured Associate Professor of Computer Science,
Savannah State College (9/1997 - present).
Associate Professor of Computer Science,
Savannah State College (9/1996 - present).
Assistant Professor of Computer Science,
Savannah State College (9/1990 - 4/1996).
Research: Image Recognition/Retrieval,
Trend Prediction;
Pattern Recognition;
Internet Image Search Engine (Content-based);
Internet Sound Search Engine (Content-based);
Neural Networks; Artificial Intelligence.
Teaching: Courses taught:
Visual Basic 6.0,
C++ 1, C++ 2,
Java, Advanced Java,
dBASE4, Access,
Data Structure and Algorithm Design (Pascal),
Data Structure and Algorithm Design(C++),
Data Structure and Algorithm Design (Java),
Computer Network
Operating Systems,
Compilers,
Database Management,
Numerical Analysis.

REFEREE:

Referee of Numerous Conferences. Examples:

- IEEE Symposium on Parallel and Distributed Processing, 1993;
- Sixth ISCA International Conference on Parallel and Distributed Computing System, 1993;
- 22nd International Conference on Parallel Processing, 1993;
- Seventh International Parallel Processing Symposium, 1992;
- Fifth ISCA International Conference on Parallel and Distributed Computing System, 1992.

PUBLICATIONS:

71. Ying Liu, " High Order Polytomous Boltzmann Machine and Forecasting Time Series I," pp. 396 - 408, Appear Proc. SPIE. Vol. 3077, April, 1997.

70. Ying Liu, " Neural Network Benchmark," pp.214 - 224, Appear Proc. SPIE. Vol. 3077, April, 1997.

69. Ying Liu, " Character and Image Recognition and Image Retrieval Using the Boltzmann Machine," pp. 706 - 715, Appear Proc. SPIE. Vol. 3077, April 1997.

68. Ying Liu, "Canonical Orders and Base Languages of Fractals," Intelligent Engineering System Through Artificial Neural Networks, Vol. 5, November, 1995, ASME Press.

67. Ying Liu, " Nonlinear Dynamics and Cryptosystem," to Appear Proc. of 3rd Technical Conference on Nonlinear Dynamics (Chaos) and Full Spectrum Processing, July, 1995.

66. Ying Liu, "Neurons, Psychons, and Emotion," Proc. SPIE. Vol. 2492, pp. 184 - 198, April, 1995.

65. Ying Liu, "Unification of two Fractal Families," Proc. SPIE. Vol. 2488, pp. 350 - 362, April, 1995.

64. Ying Liu, " Image Block Coding Using Exact Solutions of Fractal Equations," Proc. SPIE . Vol. 2488, pp. 135 - 149, Feb., 1995.

63. Ying Liu, " Boltzmann Machine for Image Block Coding," Proc. SPIE. Vol. 2424, pp. 434 - 447, Feb., 1995.

62. Ying Liu, " θ-index of Imagebase," Proc. SPIE. Vol. 2420, pp. 68 - 81, Feb., 1995.

61. Ying Liu, " Solutions of Fractal Equations," Proc. SPIE. Vol. 2418, pp. 48 - 59, Feb., 1995.

60. Ying Liu, " Video Sequence Compression Using Three-Dimensional θ-Transformation," to Appear Proc. of IEEE SMC '94, October, 1994.

59. Ying Liu, "Two Dimensional q-Transformation Using Boltzmann Machines," To appear Proc. IEEE World Congress on Computational Intelligence, June, 1994.

58. Ying Liu, "An Image Encoding Algorithm Using Hilbert Space," Proc. SPIE, Vol. 2239, pp. 226 - 240, April, 1994.

57. Ying Liu, "A Unification of Several Image Compression Methods," Proc. SPIE, Vol. 2238, pp. 92 - 106, April, 1994.

56. Ying Liu, "Continuous-Tone Image Recognition Using Boltzmann Machines," Proc. ANNIE' 93, pp. 297 - 302, November, 1993.

55. Ying Liu, "A Neural Cryptosystem," Proc. SPIE, Vol. 2204, pp. 291-296, November, 1993.

54. Ying Liu, "Parallel Algorithms for Solving Fractal Equations," Proc. of Six ISCA Conf. on Parallel and Distributed Computing Systems, pp. 312 - 317, October, 1993.

53. Ying Liu, "Image Compression Using DGIC Transformation," Proc. of AAIA Computing in Aerospace 9 Conference, pp. 841 - 851, October, 1993.

52. Ying Liu, "Image Compression Using Stochastic Cellular Automata," Proc. of AAIA Computing in Aerospace 9 Conference, pp. 852 - 857, October, 1993.

51. Ying Liu, "Continuous-Tone Image Recognition Using Fractal Theory ," Proc. SPIE, pp. 112 - 124, Vol. 2060, September, 1993.

50. Ying Liu, "Pattern Recognition Using Stochastic Neural Networks ," Proc. SPIE, Vol. 2055, pp. 570 - 583, September, 1993.

49. Ying Liu, "Image Compression Using Boltzmann Machines I," Proc. World Congress on Neural Networks '93, Vol. IV, pp. 622 - 628, July, 1993.

48. Ying Liu, "Attractor Identification and Prediction for Iterative Dynamical Systems ," Proc. SPIE, Vol. 2037, pp. 181 - 194, July, 1993.

47. Ying Liu, "Image Compression Using Boltzmann Machines II," Proc. SPIE, Vol. 2032, pp. 103 - 117, July, 1993.

46. Ying Liu, "Character Recognition Using Class 2 Dynamical Systems," Proceedings of the Second IEEE International Symposium on Uncertainty Modeling and Analysis, pp.347 - 355, April, 1993.

45. Ying Liu, "Extension of Fractal Theory," Proc. SPIE, Vol. 1966, pp.255 - 268, April, 1993.

44. Ying Liu, "Two New Classes of Boltzmann Machines," Proc. SPIE, Vol. 1966, pp.162 - 175, April, 1993.

43. Ying Liu, "Image Compression and SANN Equations," Proc. SPIE, Vol. 1965, PP.600 - 611, April, 1993.

42. Ying Liu, "Pattern Recognition Using Stochastic Cellular Automata," Proc. SPIE, Vol. 1962, pp.23 - 34, April, 1993.

41. Ying Liu, "A New Organization of Very Large Database," Proc. of IEEE Southeastcon '93, April, 1993.

40. Ying Liu and Hede Ma, "Macrocode for Error Detection and Correction in Mass Memories," Proc. of IEEE Southeastcon '93, April, 1993.

39. Ying Liu, "Image Compression Using Stochastic Neural Networks," pp. 1558 - 1563, Proc. of 1993 IEEE Conf. on Neural Networks, March, 1993.

38. Ying Liu, "Stability of Automata Neural Networks," Proc. SPIE, Vol. 1904, pp. 291 - 304, February, 1993.

37. Ying Liu, "Fractal Equations and Their Solutions," Proc. SPIE, Vol. 1902, pp. 52 - 68, February, 1993.

36. Ying Liu, "Classification of Dynamical Systems and Its Application in Computer Vision," Proc. SPIE 1832, pp.287 - 299, November, 1992.

35. Ying Liu, "A Learning Algorithm Using Hilbert Space," Proc. SPIE 1825, pp.63 - 77, November, 1992.

34. Ying Liu, "A New Class of Hopfield Model," Proc. SPIE 1826, pp.104 - 113, November, 1992.

33. Ying Liu, "Attractorcode for Fault Tolerance in Data Communication Systems," Proc. of ISATED Int'l Conf. on Reliability, Quality Control and Risk Assessment, pp.74 - 78, October, 1992.

32. Ying Liu and Hede Ma, "A Simulation of Macrocode for Error Detection and Correction in Mass Memory," Proc. of Sim Tec' 92, pp.139 - 144, October, 1992.

31. Ying Liu, "A Simulation of A New Cryptosystem Using Finite Dynamical Systems," Proc. of Sim Tec '92, pp.172 - 177, October, 1992.

30. Ying Liu, "Fractal, Neural Networks, Cellular Automata, Formal Languages and Coding Theory," Proc. of IEEE SMC '92, pp.1663 - 1669, October, 1992.

29. Ying Liu, "A Parallel Algorithm for Cryptography Using Cellular Automata," Proceedings of Fifth ISMM International Conference on Parallel and Distributed Computing and Systems, pp.155 - 159, October, 1992.

28. Hede Ma and Ying Liu, "An Efficient Simulator for Automatic Isolation of Intermittent Faults in Digital Systems," Proceedings of Summer Computer Simulation Conference, pp.250 - 254, July, 1992.

27. Ying Liu, "Two Pattern Recognition Algorithms Using Dynamical Systems," Proc. of IROS and IEEE Fifth Int'l Conf. on Intelligent Robots and Systems, pp.1363 - 1371, July, 1992.

26. Ying Liu and Hede Ma, "Image Analysis Using Class 2 and Class 5A Dynamical Systems," Proceedings of 45th Annual Conference, the Society of Imaging Science and Technology, pp.201 - 204, May, 1992.

25. Ying Liu and Hede Ma, "Image Analysis Using Class 3 and Class 5B Dynamical Systems," Proceedings of 45th Annual Conference, the Society of Imaging Science and Technology, pp.205 - 208, May, 1992.

24. Ying Liu and Hede Ma, "Comparisons of Two Learning Algorithms, "Proc. of IEEE Southeastcon '92, pp.247 -254, April, 1992.

23. Hede Ma and Ying Liu, "Automatic Fault Isolation Techniques For Digital Systems," Proc. of IEEE Southeastcon '92, pp.335 - 338, April, 1992.

22. Hede Ma and Ying Liu, "A Testable Design to Test Pattern Sensitive Faults Effectively For Semiconductor RAM," Proc. of IEEE Southeastcon '92, pp.339 - 342, April, 1992.

21. Ying Liu and Hede Ma, "Comparison Between Image Analysis Using Class 2 and Class 3 Dynamical Systems," Proc SPIE 1657, pp.461 - 475, February, 1992.

20. Ying Liu, "Image Analysis Using Hilbert Space," Proc SPIE 1657, pp.476 - 488, February, 1992.

19. Ying Liu and Hede Ma, "Pattern Recognition Using w-Orbit Finite Automata," Proc SPIE 1606, pp.226 - 240, November, 1991.

18. Ying Liu, "A Comparison Between Pattern Recognition Using Class 2 and Class 3 Dynamical Systems," Proc. Sim Tec '91, pp.281 - 288, October, 1991.

17. Ying Liu and Hede Ma, "Algorithms for Moving Object Patter Recognition Using w-Orbit Finite Automata," Proc. Sim Tec '91, pp.552 - 558, October, 1991.

16. Ying Liu and Hede Ma, "Pattern Recognition Using the Third and the Fifth Class Dynamical Systems", Proceedings of Sixth International Symposium on Methodology for Intelligent Systems (Poster Session), pp.83 - 94, October, 1991.

15. Ying Liu and Hede Ma, "A Parallel Pattern Recognition Approach", Proceedings of Fourth ISMM International Conference on Parallel and Distributed Computing and Systems, pp. 255 - 261, October, 1991.

14. Hede Ma and Ying Liu, "Efficient Placements of Error Checkers in VLSI Systems," Proceedings of the Testing Engineering Conference, pp. 103 - 112, June, 1991.

13. Hede Ma and Ying Liu, "Self-Verification of Semiconductor Random Access Memories," Proceedings of the Testing Engineering Conference, pp.113 - 118, June, 1991.

12. Ying Liu and Hede Ma, "w-Orbit Finite Automata and Image Compression," Proceedings of 44th Annual Conference, the Society of Imaging Science and Technology, pp.489 - 491, May, 1991.

11. Hede Ma and Ying Liu, "Functional Testing of Digital Systems Described by AHPL," Proceedings of 22nd Annual Conference of Modeling and Simulation, pp.1644 - 1651, May, 1991.

10. Ying Liu and Hede Ma, "w-Orbit Finite Automata for Data Compression," Proceedings of Data Compression Conference '91, IEEE Computer Press, pp.166 - 175, April, 1991.

9. Hede Ma and Ying Liu, "Design for Diagnosable Multiple-Output Digital Systems," 1991 IEEE VLSI Test Symposium, pp.204 - 209, April, 1991.

8. Hede Ma and Ying Liu, "Necessary and Sufficient Conditions for Efficient Fault Isolation in Digital Systems," Proceedings of the 25th Annual Conference on Information and Systems Sciences, pp.868 - 873, March, 1991.

7. Ying Liu, "A Parallel Algorithm for Traversing a Tree", Proceedings of the ISMM International Symposium on Industrial, Vehicular and Space Applications of Microcomputers, pp.58 - 59, October, 1990.

6. Ying Liu, Z. Physics C, 45, 235 (1989).

5. L. F. Li and Ying Liu, Physics Letter, 195B (1987) 281.

4. Ying Liu, Z. Physics C, 30, 631 (1986).

3. Ying Liu, Z. Physics C, 29, 551 (1985).

2. L. F. Li and Ying Liu, Physics Letter, 160B (1985) 163.

1. L. F. Li, Ying Liu and L. Wolfenstein, Physics Letters, 158B (1985) 45.